WATER, WORSHIP, AND WISDOM: INDIGENOUS TRADITIONAL ECOLOGICAL KNOWLEDGE AND THE HUMAN RIGHT TO WATER

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The relationship between religion and water, whether as a spiritual symbol or ceremonial source, is virtually universal. This relationship is often very strong in the religious practices and beliefs of indigenous peoples, who typically have a strong spiritual connection to their traditional lands and waters. This connection is often manifested in "traditional ecological knowledge" (TEK), socially-beneficial environmental management practices, and information transmitted by cultural and often religious tradition.

As indigenous communities and the ecological integrity of indigenous traditional waters are threatened, indigenous people may turn to claims under international human rights as a means of protecting water resources and securing water rights. The current approach to the international human right to water is likely to prove inadequate for indigenous people to achieve protection of water quality and an equitable apportionment of water resources. A new approach to the human right to water, grounded in religious rights and religiously-based TEK, could provide a stronger protection for indigenous water rights and the water quality of traditional indigenous waters. This Essay proposes such an approach, as well as a framework for international courts to adjudicate indigenous religious rights-based claims to water resources.

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I. INTRODUCTION

Water is used in ceremonies or as a symbol in nearly every religious community. Despite this near universal connection between religion and water, the religious use or protection of water is largely ignored in legal scholarship. The spiritual character of water makes for an inconvenient co-religionist with water demand economics and environmental protection science, posing a miasma of legal complications. The legal challenges associated with the relationship between water and worship are particularly complex for indigenous communities. Unlike many mainstream religions, indigenous communities often center religious worship on particular

geographic features, including rivers.[1] This unique relationship between faith and geography blends complex questions on the scope and meaning of the right to life, with similar questions relating to property rights, religious rights, and sovereignty rights.

This essay evaluates how indigenous communities' religious rights, in connection with indigenous traditional ecological knowledge, may support indigenous community claims to water rights and protection of water quality under international law. Section I places the religious rights-based approach to the international human right to water for indigenous communities within the broader discussion on the human right to water. Section I also notes the advantages of a religious rights-based approach for indigenous communities seeking access to, or protection of, water resources. Section II addresses the implications of indigenous religious rights-based claims to water in the context of religiously-based traditional ecological knowledge related to water. Section III proposes how indigenous communities can best pursue a religious rights-based approach to water resource claims, and a potential framework for adjudicating indigenous religious rights claims to water under international law.[2]

II. THE INTERNATIONAL HUMAN RIGHT TO WATER AND RELIGION

Indigenous communities suffer disproportionately from environmental degradation and appropriation of their traditional lands and resources.[3] For example, the Huaroni are a small tribe living along the Napo and Curaray Rivers in the rain forests of Ecuador who have suffered from pollution of their traditional water sources from oil development.[4] As part of an effort to respond to this growing global crisis, of which the Huaroni are only one example, the United Nations (U.N.) issued its Declaration on the Rights of Indigenous Peoples (IP Declaration) in 2007.[5] Article 25 of the IP Declaration provides that indigenous peoples "have the right to maintain

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1. *See generally* GREGORY CAJETE, LOOK TO THE MOUNTAINS: AN ECOLOGY OF INDIGENOUS EDUCATION (Kivaki Press 1994).

2. This essay summarizes the broader analysis originally published in the Arizona Journal of Environmental Law and Policy, Volume 2, Issue 1 (2011); *see generally* Rhett Larson, *Holy Water and Human Rights: Indigenous Peoples' Religious-Rights Claims to Water Resources*, 2 ARIZ. J. OF ENV. L. & POL'Y 81 (2011).

3. *See* JULIAN BURGER, REPORT FROM THE FRONTIER: THE STATE OF THE WORLD'S INDIGENOUS PEOPLES (1987); *see also* Robert K. Hitchcock, *International Human Rights, the Environment, and Indigenous Peoples*, 5 COLO. J. INT'L ENVTL. L. & POL'Y 1 (1994).

4. William A. Shutkin, *International Human Rights Law and the Earth: The Protection of Indigenous Peoples and the Environment*, 31 VA. J. INT'L L. 479, 496–97 (1991).

5. Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, ¶10, U.N. Doc. A/RES/47/1 (Sept. 7, 2007) [hereinafter IP Declaration].

and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, [and] *waters*"[6] [emphasis added]. The U.N. thus draws a connection between spiritual practice and rights to the use of water by indigenous peoples. This connection suggests a potential novel approach to indigenous water rights claims under international law.

Indigenous communities may face challenges in asserting a religiously-based right to water through domestic law. With respect to water, indigenous communities are often constrained by their relationship with national governments.[7] This section evaluates the potential to pursue a religiously-based right to water under international human rights law, and how such an approach may prove more successful in securing or improving water resources for indigenous communities than alternative theories under international law.

A. The Right to Water Under United Nations Declarations

Ultimately, the potential for a religious rights-based argument to water resources by indigenous peoples under international law may depend upon the existence of an enforceable international human right to water. The human right to water has been addressed expressly in several U.N. documents, but those documents, like the IP Declaration, are not typically legally binding.

The most recent non-binding iteration of the formulation of the international human right to water was set forth by the U.N. General Assembly on July 28, 2010.[8] That resolution declared that the "right to safe and clean drinking water . . . [is] a human right that is essential for the full enjoyment of life and all human rights."[9] Despite the political and diplomatic role this resolution plays in encouraging expanding access to safe drinking water, this resolution does not establish a legally binding and enforceable human right to water.[10] Nor does this resolution answer the questions at the heart of the human right to water debate: Must water be provided for free or heavily subsidized, and if so, by whom and who covers the cost? If free or heavily subsidized, what are the implications for conservation? How much water, and what quality of water, is required?

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6. *Id.* at art. 25.

7. William Blatt, *Holy River and Magic Mountain: Public Lands Management and the Rediscovery of the Sacred in Nature*, 39 LAW & SOC. REV. 681, 682 (2005).

8. The Human Right to Water and Sanitation, U.N. GAOR, 64th Sess., 108th plen. mtg. at 4, U.N. Doc. A/64/PV.108 (July 28, 2010).

9. *Id.* at 17–18.

10. *Id.*

Against whom is the right enforceable? Does such a right create rights in nations *vis á vis* other nations, or in non-state actors *vis á vis* other nations or their own nations?

U.N. human rights instruments generally do not mention water expressly, and thus an international water right must be inferred.[11] For example, Article 25 of the U.N.'s Universal Declaration of Human Rights (HR Declaration) provides the following: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family."[12] This right infers a right to access water, without which there is no standard of living at all.[13] However, the HR Declaration is binding only to the extent it has become part of "customary international law" and guides interpretation of other U.N. documents.[14]

To the extent the HR Declaration is binding, it is likely binding only for "liberty rights" (e.g., those natural rights with which governments will not legally interfere without due process) and is not binding for "welfare rights" (e.g., rights to goods or services which governments must secure or extend).[15] Any water right inferred from the HR Declaration would likely be considered a non-guaranteed "welfare right."[16]

The ultimate power of the HR Declaration, the IP Declaration, and the recent General Assembly Resolution on the human right to water lie in their political and diplomatic role and interpretive influence, not in their legal effect. This power, though not negligible, still compels indigenous communities to look elsewhere to ground claims to water quality or water resources on guaranteed rights enforceable in international tribunals by non-state actors.

B. The Right to Water Under United Nations Covenants

Unlike the U.N. declarations and resolutions described above, the U.N.'s 1967 Covenant on Civil and Political Rights (CP Covenant) imposes

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11. Stephen McCaffrey, *A Human Right to Water: Domestic and International Implications*, 5 GEO. INT'L ENVTL. L. REV. 1, 7 (1992).

12. Universal Declaration of Human Rights, G.A. Res. 217, U.N. Doc. A/Res/217/64 (1948) [hereinafter HR Declaration].

13. McCaffrey, *supra* note 11, at 7–8.

14. *Id.*; *see also* Eric Posner and Alan Sykes, *Efficient Breach of International Law: Optimal Remedies, "Legalized Noncompliance," and Related Issues*, 110 MICH. L. REV. 243, 290–91 (2011).

15. Posner & Sykes, *supra* note 14. For an overview of human rights under U.N. treaties and the distinction between negative and positive rights, *see* LOUIS HENKIN ET AL., HUMAN RIGHTS, 214–23 (2d ed. 2009).

16. HENKIN ET AL., *supra* note 15, at 214–23.

an immediate obligation to ensure the rights it contains.[17] Article 6 provides that every person "has the inherent right to life."[18] Life cannot be sustained without adequate water; thus, the CP Covenant arguably requires states to ensure access to adequate water to all people.[19] However, many commentators view this right to life as a "liberty right," which does not impose an affirmative obligation on governments to provide adequate water.[20]

The U.N. adopted the Covenant on Economic, Social, and Cultural Rights (ESC Covenant) in 1967.[21] Article 11 recognizes a right to an "adequate standard of living," which implies a right to water (at least a "liberty right").[22] The ESC Covenant, however, requires only that states "take steps . . . to the maximum of [their] available resources, with a view to achieving progressively the full realization of the rights recognized in the [ESC Covenant]," and thus is practically non-binding on states.[23]

A right to water was recognized in 2002 under General Comment 15 to the ESC Covenant.[24] General Comment 15 infers the right to water from other rights under the ESC Covenant, finding the right to water "indispensable" to the realization of other human rights and recognizing the right to water in other international legal instruments, including human rights treaties and environmental declarations.[25]

Nevertheless, General Comment 15 alone likely does not support an international legal claim to water. General Comment 15 does not constitute a legally binding interpretation of the ESC Covenant.[26] Even if Comment

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17. International Covenant on Civil and Political Rights, G.A. Res. 2200 (XXI), U.N. GAOR, Supp. No. 52, U.N. Doc. A/6316 (1967) [hereinafter CP Covenant]; *see also* McCaffrey, *supra* note 11, at 9.

18. CP Covenant, *supra* note 17, at art. 6.

19. *Id.*

20. McCaffrey, *supra* note 11, at 9.

21. International Covenant on Economic, Social and Cultural Rights, G.A. Res. 2200 (XXI), U.N. GAOR, Supp. No. 49, U.N. Doc. A/6316 (1967) [hereinafter ESC Covenant].

22. *Id.* at art. 11.

23. *Id.* at art. 2(1).

24. Committee on Economic, Social, and Cultural Rights, General Comment 15, U.N. Doc. E/C.12/2002/11 (Jan. 20, 2003) [hereinafter General Comment 15].

25. *Id.*

26. Erik B. Bluemel, *The Implications of Formulating a Human Right to Water*, 31 ECOLOGY L.Q. 957, 972 (2004).

15 enshrined a human right to water in the ESC Covenant, "it would be largely of symbolic value."[27]

Additionally, the ESC Covenant is a weak foundation upon which to base the human right to water, as compared to the CP Covenant. The CP Covenant contains a stronger statement with respect to state obligations and includes an adjudicative process.[28] The CP Covenant also includes a binding Optional Protocol, which provides a legal mechanism whereby non-state actors, including indigenous communities, can bring claims against their own nations for violations of human rights.[29] The ESC Covenant is ambiguous as to state obligations and lacks adjudicative processes. Furthermore, unlike the CP Covenant, the ESC Covenant's Optional Protocol remains non-binding, and thus there is no mechanism whereby non-state actors can bring claims under the ESC Covenant.[30] The absence of a binding Optional Protocol, the relatively weak obligation only to "progressively realize" guaranteed rights, and its ambiguity and lack of adjudicative processes and precedent combine to make the ESC Covenant "normatively and jurisprudentially underdeveloped compared to the [CP Covenant]."[31]

C. An Independent Human Right to Water

The human right to water could arise as an independent right if it constitutes binding "customary international law."[32] There is an increasing support for the existence of that independent right. For example, the Dublin Statement (a non-binding U.N. document) declared that it is "vital to recognize the basic right of all human beings to have access to clean water and sanitation at an affordable price."[33] However, few countries recognize

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27. STEPHEN MCCAFFREY, *The Human Right to Water*, *in* FRESH WATER AND INTERNATIONAL ECONOMIC LAW 93–115, 108 (Edith Brown Weiss et al. eds., Oxford Univ. Press 2005).

28. *See* CP Covenant, *supra* note 17, at art. 2, ¶ 1.

29. Optional Protocol to the International Covenant on Civil and Political Rights, G.A. Res. 2200 (XXI), U.N. GAOR, 21st Sess., Supp. No. 16, U.N. Doc. A/6316 (Dec. 16, 1966).

30. Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, G.A. Res. 63/117, U.N. Doc. A/RES/63/117 (Dec. 10, 2008).

31. SARAH JOSEPH, JENNY SCHULTZ & MELISSA CASTAN, THE INTERNATIONAL COVENANT ON CIVIL AND POLITICAL RIGHTS: CASES, MATERIALS, AND COMMENTARY 163 (Oxford Univ. Press 2d ed. 2004).

32. DAVID J. BEDERMAN, INTERNATIONAL LAW FRAMEWORKS (Foundation Press 2001).

33. International Conference on Water & the Environment, Jan. 26–31, 1992, *The Dublin Statement on Water and Sustainable Development*, princ. 4, U.N. Doc. A/CONF.151/PC/112 (Mar. 12, 1992) [hereinafter Dublin Statement].

an independent right to water, and the right to water has likely not achieved the status of "customary international law."[34]

Furthermore, the Dublin Statement, and even Comment 15, each discuss water as a "good."[35] Comment 15 refers to water as a "public good."[36] The Dublin Statement provides that water has "economic value in all its competing uses and should be recognized as an economic good."[37] As such, international law likely does not view privatization as a *per se* violation of the human right to water.[38] These documents arguably undercut claims to a human right to water on any basis other than "liberty rights" by characterizing water as an economic commodity and private property.[39] Indigenous communities are thus unlikely to ground a successful claim to water resources on a "customary international law" basis for a human right to water.

D. A Negative Rights Approach Over a Positive Rights Approach

Two recent domestic cases illustrate how a negative rights approach to the human right to water, such as an approach made under the CP Covenant, could prove more successful for indigenous peoples than a positive rights approach.

A recent case, *Mazibuko v. City of Johannesburg* from South Africa's Constitutional Court, illustrates the potential pitfalls of a positive rights approach to the human right to water.[40]

South Africa was the first country to explicitly provide a constitutional right to "sufficient" water.[41] South Africa's government interpreted this to mean a guarantee of at least twenty-five liters of water per person each day.[42] Initially, the City of Johannesburg complied with this requirement by supplying water based on a payment of a single, flat fee.[43] However, this soon proved economically unsustainable, particularly in Phiri, a poor

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34. Amy Hardberger, *Life, Liberty, and the Pursuit of Water: Evaluating Water as a Human Right and the Duties and Obligations it Creates*, 4 NW. J. INT'L. HUM. RTS. 331, 338 (2005).

35. General Comment 15, *supra* note 24.

36. *Id.*

37. Dublin Statement, *supra* note 33.

38. McCaffrey, *supra* note 27, at 106.

39. Hardberger, *supra* note 34, at 334.

40. *Mazibuko & Others v. The City of Johannesburg & Others* 2009 ZACC 28, CCT 39/09 (CC) at ¶ 16 (S. Afr.).

41. S. AFR. CONST., 1996 at art. 27.

42. *Mazibuko*, *supra* note 40, at ¶ 11.

43. *Id.* at ¶ 15; *see also* South African Water Services Act of 1997, § 9 (S. Afr.).

and predominantly black neighborhood in the Soweto area of the City.[44] Phiri residents paid only one percent of the cost it took to provide the neighborhood with water.[45] In response to this problem, the City changed its policy.[46] It provided twenty-five liters per person each day for free, and then installed prepaid meters.[47] If residents did not prepay for water, their water services were cut off, even though regulations required notice and a hearing prior to cessation of water services.[48] While other parts of the City continued to pay for water on credit, Phiri was one of the few areas where the new "free basic water policy" was implemented.[49] Residents of Phiri claimed the City's "free basic water policy" violated their constitutionally guaranteed right to water.[50]

At the trial court level, the court held in favor of the Phiri residents, claiming that twenty-five liters per person each day was insufficient and the free amount should have been fifty liters per person each day.[51] On appeal, the appellate court held again for the Phiri residents, but reduced the amount of free water to forty-two liters per person each day.[52] On appeal, the South African Constitutional Court, however, deferred to the City's "free basic water policy" approach and reversed the lower court rulings.[53]

Ultimately, the South African Constitutional Court concluded that the positive right to water guaranteed by the South African Constitution could not be imposed without consideration of available resources and cost recovery of services provided.[54] The practical considerations of funding a sustainable water supply and distribution effectively precluded a successful human rights claim to a certain quantity or quality of water.

On the other hand, a negative rights approach, based on the types of rights guaranteed under the CP Covenant, could prove more straightforward and thus more successful. An example of the success of such a "traditional civil rights" approach to the human right to water (though at the national, rather than international level) can be found in the *Mosetlhanyane* case in

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44. *Mazibuko, supra* note 40, at ¶ 10.

45. *Id.* at ¶ 146.

46. *Id.*

47. *Id.* at ¶ 26.

48. *Id.* at ¶ 28; *see also* South African Promotion of Administrative Justice Act of 2000 (S. Afr.).

49. *Mazibuko, supra* note 40, at ¶ 31.

50. *Id.* at ¶ 105.

51. *Id.* at ¶ 26.

52. *Id.* at ¶ 28.

53. *Id.* at ¶ 171.

54. *Mazibuko, supra* note 40, at ¶ 169.

Botswana.[55] Here, Kalahari Bushmen secured the right to access traditionally-used wells for drinking water based on their constitutionally-protected right to be free from degrading or inhumane treatment.[56] Even though the national constitution of Botswana did not provide for an express "welfare right" to water, the right to water was secured in connection with express traditional civil rights embodied in the constitution and mirrored in Article 7 of the CP Covenant, which guarantees freedom from "cruel, inhuman, or degrading treatment."[57]

Reliance on a "liberty right," such as the right to be free from cruel or degrading treatment grounds claims on well-adjudicated, clearly binding rights that do not implicate issues of limited resources or cost recovery.[58] By avoiding such issues through a negative rights approach, the Kalahari Bushmen secured the access to water they desired.[59] By confronting such issues, the residents of Phiri failed to secure the access to water they desired, despite an express guarantee of a positive right to water in the South African Constitution.[60] Such an approach is even less likely to secure water in the international context, where no express guarantee of water exists. Importantly, in the only two instances in which water is expressly mentioned in binding international human rights instruments, it is mentioned in connection with a negative right—the right to be free from discrimination as a child or as a woman.[61]

E. The Human Right to Water and Religious Rights

Based on the above, to formulate the strongest argument under international law supporting a human right to water, the claimant should base its argument on rights contained in the CP Covenant. The argument for a human right to water should not be framed as a "welfare right" under the ESC Covenant, as these rights must only be implemented progressively and in accordance with available resources and lack a mechanism for non-state actors to bring a claim against their own nations. Instead, the human

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55. *See generally Matsipane Mosetlhanyane et al. v. Attorney General, Court of Appeals of the Republic of Botswana*, Civil Appeal No. CACLB-074-10 [hereinafter *Mosetlhanyane*]; High Court Civil Case No. MAHLB-000393-09.

56. *Id.*

57. CP Covenant, *supra* note 17, at art. 7.

58. *See generally Mosetlhanyane*, *supra* note 55.

59. *Id.* at 37.

60. *Id.* at 36.

61. *Convention for the Elimination of All Forms of Discrimination Against Women*, 1 March 1980, 1249 UNTS 13, Can TS 1982 No 31 [hereinafter CEDAW]; *see also Convention on the Rights of the Child*, 20 November 1989, 1577 UNTS 3, Can TS 1992 No 3 [hereinafter CRC].

right to water should be framed as a "liberty right." Such rights under the CP Covenant are immediately binding upon states and have clear adjudicative processes available to non-state actors.

With a well-established adjudicative process available to non-state actors, the right to freely exercise one's religion is a "liberty right" within the CP Covenant and is immediately binding on states.[62] Article 18 of the CP Covenant provides that everyone "shall have the right to freedom of thought, conscience and religion."[63] This right shall include "freedom to . . . either individually or in community with others . . . manifest his religion or belief in worship, observance, practice and teaching."[64] The CP Covenant provides that religious freedom may be limited only as "prescribed by law and [as] necessary to protect public safety, order, health, or morals or the fundamental rights and freedoms of others."[65]

Any governmental action relating to water which burdens an individual or community's religious practice could constitute a violation of Article 18 of the CP Covenant, which is binding on states and includes an adjudicative process.[66] Such governmental actions could include, among other actions, discharge or abstraction permits decreasing stream flows, or degrading water quality, dam construction, international water treaties with unreasonable or inequitable apportionments, and the establishment of water quality regulations insufficiently protective of water quality.[67]

When interpreted under the IP Declaration, religious rights under the CP Covenant may provide a strong legal basis for indigenous communities to assert a religious rights-based claim to water resources. The IP Declaration implicitly connects the religious rights of the CP Covenant to indigenous communities' rights to maintain and strengthen their "distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories and water."[68]

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62. Puja Kapai and Anne S.Y. Cheung, *Hanging in the Balance: Freedom of Expression and Religion*, 15 BUFF. HUM. RTS. L. REV. 41, 48 (2009).

63. CP Covenant, *supra* note 17, at art. 18.

64. *Id.*

65. *Id.*

66. *Id.*

67. *Id.*

68. IP Declaration, *supra* note 5, at art. 25.

III. THE IMPLICATIONS OF INDIGENOUS RELIGIOUS RIGHTS-BASED CLAIMS TO WATER RESOURCES

Beyond the potential legal strategic advantages noted above, indigenous claims to water based on religion may carry positive and negative implications for cultural and ecological conservation, sovereignty and self-determination of indigenous communities, interpretation of existing water law, and resolution of water conflicts.[69]

For example, the Pueblo of Isleta (Pueblo), a tribal nation located in the Southwestern United States (U.S.), sought approval from the U.S. Environmental Protection Agency (EPA) for water quality standards established by the tribe.[70] The standards proposed by the Pueblo were more stringent than typical EPA-approved water quality standards established by the states, as the Pueblo sought protection for ceremonial uses of the water.[71] The EPA approved these standards in an acknowledgement of the tribe's right to self-determination and sovereignty over natural resources, and the tribe's policy towards improvement of water quality and environmental protection.[72] Despite these benefits, upstream water users complained that these stringent standards placed an undue burden on their water uses.[73] The upstream users, including municipalities, challenged the EPA's approval of the Pueblo's standards because they assumed costs associated with changes to their water uses and treatment of discharges into the river to conform to standards.[74] Upstream users claimed these standards were unreasonable, in part because they were based on religious beliefs they did not share; further, they considered these standards contrary to the best available science on appropriate standards established through a cost-benefit analysis.[75]

Religiously-based policies and practices toward natural resources can thus be a double-edged sword for indigenous communities. On the one hand, they may serve to preserve otherwise threatened traditional uses and cultural practices, promote and protect self-determination and sovereignty, and maintain and improve environmental quality and human health. On the

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69. Rebecca Tsosie, *Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional Ecological Knowledge*, 21 VT. L. REV. 225, 226 (1996).

70. *Id.* at 235; *see also* City of Albuquerque v. Browner, 865 F.Supp. 733, 733 (D.N.M. 1993).

71. Tsosie, *supra* note 69, at 236; *City of Albuquerque*, 865 F.Supp. at 736, 740.

72. Tsosie, *supra* note 69, at 235.

73. *Id.* at 236.

74. *Id.*

75. *Id.*; *City of Albuquerque*, 865 F.Supp. at 740.

other hand, such policies and practices may be viewed as unreasonable and unfair by those who share the resources with the indigenous community or compete for claims to a right over the resources.

A. Religious Rights to Water and Traditional Ecological Knowledge

The religiously-based approach toward resource protection and environmental policy demonstrated in the case of the Pueblo of Isleta codified traditional religious beliefs and practices related to the protection of water resources.[76] Religious rights-based claims to water provide a legal bulwark to potentially beneficial indigenous resource management methods. Indigenous communities may develop valuable TEK embodied in religious ceremonies and teachings that promote sustainable water management.[77] TEK is a "body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment."[78]

Failure to legally protect indigenous religious-based TEK could have adverse ecological as well as cultural impacts, as there is an "inextricable link" between cultural and biological diversity that gives rise to a "converging extinction crises [sic]."[79] A religious-based claim to indigenous water rights operates on both fronts of these crises. By protecting and promoting environmentally-beneficial TEK through legal means, law may mitigate threats posed to both survival of indigenous cultures and to the environmental quality of traditional indigenous lands and waters.[80]

Additionally, religious-based claims to water rights reinforce the legitimacy of indigenous, religious-based TEK. For example, in the Katun River Basin in Siberia, the Altaians' religious beliefs prohibit the subjugation of the natural world and thus the Altaians opposed construction of a dam on the Katun River; the Katun River holds a particular religious significance for the Altaians.[81] Part of their strategy in successfully

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76. Tsosie, *supra* note 69, at 236.

77. FIKRET BERKES, SACRED ECOLOGY: TRADITIONAL ECOLOGICAL KNOWLEDGE AND RESOURCE MANAGEMENT 8 (Taylor and Francis: Philadelphia 1999).

78. *Id.*

79. Luisa Maffi, *Linguistic, Cultural, and Biological Diversity*, 29 ANNUAL REV. ANTHROPOL. 599, 602–11 (2005).

80. *Id.* at 611.

81. Kheryn Klubnikin, Cynthia Annett, Maria Cherkasova, Michail Shishin & Irina Fotieva, *The Sacred and the Scientific: Traditional Ecological Knowledge in Siberian River Conservation*, 10 ECOLOGICAL APPLICATIONS 1296, 1297–1300 (2000).

opposing the dam was informing scientists of their religious-based TEK, which included distinguishing fish species by physical characteristics and their knowledge of the medicinal properties of plants that would have been harmed by dam construction.[82] A religious rights-based claim to water would provide legally cognizable claims to protect the type of TEK employed by the Altaians—TEK which successfully influenced water policy and informed scientific knowledge.

Claims to water resources grounded in TEK with a demonstrated economic or environmental value are more likely to succeed as those claims are less likely to be challenged as unreasonable. Such claims can expand existing knowledge on tools for sustainable development by legitimizing the knowledge and practice of communities most familiar with the historical function of ecosystems on traditional indigenous lands.[83]

Nevertheless, in citing case studies like those of the Katun River, there is a danger of adhering to the myth of the "ecologically noble savage."[84] Indigenous religious beliefs and practices may have detrimental ecological effects. For example, the religious motivation behind the construction of the iconic stone statues of Easter Island arguably contributed to the ecological catastrophe that deforested and largely depopulated the island.[85] Where claims for water resources are grounded on practices or beliefs with no demonstrable economic or environmental benefit, these claims are less likely to succeed as those claims will likely be challenged as unreasonable. Those claims with no economic or environmental benefit undermine efforts to legitimize TEK as an important source of best practices for sustainable development.[86]

Further, resource management decisions based on indigenous religions can be as much of a double-edged sword as any other approach to resource management. For example, the Navajo Nation (Navajo) sued the U.S. Forest Service for desecrating a sacred site by authorizing use of treated sewage effluent to supplement snow during low precipitation years in a ski resort on mountains owned by the federal government, leased to a ski resort developer, and considered sacred by the Navajo.[87] Arguably, the Navajo's

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82. *Id.* at 1300–02.

83. *Id.*

84. Kent H. Redford & Allyn Maclean Stearmn, *Forest-Dwelling Native Amazonians and the Conservation of Biodiversity: Interests in Common or in Collision?*, 7 CONSERVATION BIOLOGY 248, 254 (1993).

85. *See* JARED DIAMOND, COLLAPSE: HOW SOCIETIES CHOOSE TO FAIL OR SUCCEED, Chap. 2 (Viking Books 2005).

86. Klubnikin et al, *supra* note 81, at 1300–02.

87. *See* Navajo Nation v. U.S. Forest Service, 535 F.3d 1058 (9th Cir. 2008).

opposition would prevent pollution from sewage effluent with elevated nutrient and bacteria levels.[88] However, the opposition of the Navajo also could create obstacles to water recycling, regarded by many as an essential component to water resource conservation in arid regions.[89]

Thus, even where TEK may have demonstrable environmental benefits, concerns over the cost-benefit analysis of implementing such TEK on a cross-cultural scale are problematic, particularly as religiously-based TEK may defy cost-benefit analysis in the minds of indigenous peoples basing claims on such TEK.[90] Despite the potential drawbacks, a strategy of basing claims to water resources predicated on TEK preserves and transmits potentially-valuable TEK in the face of a hegemonic threat to the culture of indigenous peoples.[91]

B. Indigenous Religious Claims to Water and Interpretation of Law

In addition to preserving valuable TEK, indigenous religious rights-based claims to water resources may legitimize interpretations of existing water law in support of ecological preservation and sustainable water management.[92] For example, the Doctrine of Beneficial Use governs water appropriations in most of the Western United States.[93] The Doctrine of Beneficial Use provides that a water right is legally recognized only if the water is put to a "beneficial use"—with non-use resulting in forfeiture of the water right, and wasteful use prohibited.[94] Often, state water law establishes a narrow definition of "beneficial use" that does not recognize cultural uses of water or even in-stream uses of water such as stream flow preservation.[95]

To preserve such water uses and water management options, the Wind River Reservation, encompassing the Shoshone and Arapahoe people,

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88. *Id.* at 1082.

89. *Id.* at 1065.

90. *See generally* Klubnikin et al, *supra* note 81, at 1300–02; Redford and Stearmn, *supra* note 84 at 252.

91. *See generally* Klubnikin et al, *supra* note 81, at 1300–02; Redford and Stearmn, *supra* note 84 at 252.

92. Klubnikin et al, *supra* note 81, at 1300–02.

93. Cathleen Flanagan and Melinda Laituri, *Local Cultural Knowledge and Water Resource Management: The Wind River Indian Reservation*, 33 ENVIRONMENTAL MANAGEMENT 262, 270 (2004).

94. *See, e.g.*, Lawrence v. Clark County, 254 P.3d 606, 611 (Nev. 2011); *see also* Stephen F. Williams, *The Requirement of Beneficial Use as a Cause of Waste in Water Resource Development*, 23 NAT. RESOURCE J. 7 (1983).

95. Flanagan and Laituri, *supra* note 93, at 266.

developed the Wind River Water Code, which provides that religious and in-stream uses of water fall within the definition of "beneficial use," thereby legally protecting water rights based on ceremonial and ecological conservation as "beneficial uses."[96] Legal arguments tying the human right to water with religious rights lend legitimacy to the Wind River approach and would support in-stream and religious uses of water as valid under the Doctrine of Beneficial Use.[97] A right to water based on religious rights could foreclose legal challenges that require users to withdraw and sometimes waste water or face losing water rights under the common "use-it-or-lose-it" principle.[98]

However, interpretation of water law arising from religious rights-based claims to water carries several risks. First, the religious rights argument to water resources could be made as a pretext to secure an inequitable or unsustainable allocation of water or unreasonable protection of water quality.[99] For example, indigenous communities in the Southwestern United States have made both formal and informal efforts to prevent uranium mining on tribal land, or land held sacred by tribes.[100] These efforts have been challenged by both mining companies and tribal members claiming that religiously-based bans preclude economic development for tribal communities in need of jobs and industry from development of tribal natural resources.[101] Furthermore, development of uranium could form part of the efforts to develop nuclear power to mitigate climate change, which has arguably disproportionate impacts on indigenous peoples.[102] Nevertheless, these tribal communities opposing uranium mine

96. *Id.*

97. *Id.* at 264, 266.

98. *See e.g.*, *id.* at 265; Geringer v. Runyan, 235 P.3d 867, 870 (2010); *see also* R. Lambeth Townsend, *Cancellation of Water Rights in Texas: Use It or Lose It*, 17 ST. MARY'S L. J. 1217 (1986).

99. Havasupai Tribe v. U.S., 752 F.Supp. 1471, 1476 (D. Ariz. 1990), *aff'd*, 943 F.2d 32 (9th Cir. 1991).

100. *See, e.g.*, *Havasupai Tribe,* 752 F.Supp. at 1480; *see also* Winona LaDuke, "*Navajos Ban Uranium Mining*," EARTH ISLAND JOURNAL, Autumn 2005, Vol. 20 Issue 3, 37–38.

101. Judy Pastemak, *Mining Firms Again Eyeing Navajo Land*, LA TIMES.COM, Nov. 22, 2006, http://www.latimes.com/news/la-na-navajo22nov,0,2730465.story?page=1 (last visited Oct. 16, 2012); *see also Navajo's Ban Uranium Mining on Reservation*, ASSOCIATED PRESS, April 22, 2005, http://www.msnbc.msn.com/id/7602821/ns/us_news-environment/t/navajos-ban-uranium-mining-reservation/#.UHwxGIaxPCD (last visited Oct. 16, 2012).

102. Albert C. Lin, *Evangelizing Climate Change*, 17 N.Y.U. ENVTL. L.J. 1135, 1170–71 (2009); *see also* Christopher Furgal & Jacinthe Seguin, *Climate Change, Health and Vulnerability in Canadian Northern Aboriginal Communities*, 114 ENVTL. HEALTH PERSP. 1964, 1968 (2006); Robert W. Adler, *Climate Change and the Hegemony of State Water Law*, 29 STAN. ENVTL. L.J. 1, 59 (2010).

development have suffered severe health impacts from uranium mining in the past.[103] The challenge of basing claims to protect or access water resources on religious grounds is well-delineated when those claims are reasonable, or if the benefits can be weighed against the costs.

Second, religious arguments can be asserted in a manner that could uniquely (and perhaps unfairly or unwisely) privilege religious belief. For example, in *Employment Division v. Smith*, the United States Supreme Court addressed a claim by a small group of indigenous people who were denied unemployment benefits by the state because they were fired from their employment for testing positive for peyote, an illegal narcotic used by indigenous people for ceremonial purposes.[104]

In holding against these claimants, the Court cited precedent that government can burden religious practice because holding otherwise would be "in effect to permit every citizen to become a law unto himself."[105] A similar concern arises in the context of religious claims to water, whereby each individual could become "a law unto himself" if religious arguments were interpreted broadly, and impinge on legitimate and necessary water allocations or appropriately-established water quality standards.[106]

Again, opponents of tribal efforts to ban uranium mining could claim that tribal religious beliefs make tribes a "law unto themselves." This imposes costs on others; in the case of the uranium mining ban, the costs are the loss of economic opportunities and opportunities to mitigate greenhouse gas emissions contributing to global climate change.

C. Indigenous Religious Claims to Water and Water Conflict

As a religious movement with desert roots, Islam is a rich source of spiritually-derived water conservation ethics. Islamic law provides for prioritization of water uses:

1) for human health;
2) for domestic animals; and
3) for irrigation.[107]

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103. NAVAJO NATION CODE tit. 18, § 1301(A)–(F) (2005).

104. Employment Division v. Smith, 494 U.S. 872 (1990).

105. *Id.* at 879.

106. *Id.*

107. Naser I. Faruqui, *Islam and Water Management: Overview and Principles*, *in* WATER MANAGEMENT IN ISLAM, 2-3 (Faruqui, Naser I., Asit K. Biswas, and Murad J. Bino eds., United Nations University Press: New York 2001); *see also* Shaukat Farooq & Zafar Ansari,

Islamic law also includes protection of water resources for ecological purposes.[108]

Islamic law relating to water management has been a powerful influence for peace in water disputes between indigenous peoples. For example, Islamic law prioritizes water uses (as described above) between Berber tribes in the Atlas Mountains and Bedouin tribes in the Negev Desert.[109] Islamic law not only guides water management as between these communities but also guides dispute resolution mechanisms, including ritual forgiveness ceremonies for breaches of water agreements.[110]

Nevertheless, religious interests could make already complicated and contentious water disputes virtually intractable. For example, water cannot be bought or sold under a common interpretation of Islamic law, and the use of water must be available to all equally.[111] This interpretation could be a source of opposition both to the privatization of water resources or existing water rights, which could aggravate conflict within the watershed.

Ultimately, a religious rights-based claim by indigenous people to water resources protects and promotes TEK. Furthermore, religious-based TEK itself is evidence of water use and water protection efforts to which indigenous communities may point to establish legitimate claims to sovereignty over their traditional water or at least an equitable apportionment of shared water resources.[112]

IV. FRAMEWORKS FOR ADJUDICATING INDIGENOUS RELIGIOUS CLAIMS TO WATER

While religious rights-based claims by indigenous peoples to water resources may promote and protect socially-valuable TEK, such claims may have adverse impacts. These impacts include aggravating water conflict or supporting overreaching claims to water resources by indigenous communities shared with others who have legitimate claims. The question remains how an international court facing such claims should balance concerns for indigenous rights and socially-valuable TEK against such

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Wastewater Reuse in Muslim Countries: An Islamic Perspective, 7 ENVIRONMENTAL MANAGEMENT 119, 123 (1983).

108. Faruqui, *supra* note 107, at 3; Farooq and Ansari, *supra* note 107, at 119-23.

109. Aaron T. Wolf, *Indigenous Approaches to Water Conflict Negotiations and Implications for International Waters*, 5 INTERNATIONAL NEGOTIATION: A JOURNAL OF THEORY AND PRACTICE 2 (Dec. 2000).

110. *Id.*

111. *Id.*

112. *See generally* Wolf, *supra* note 109, at 365.

potential countervailing adverse impacts associated with religious-based claims to water rights.

Given the positive and negative implications associated with religious-based arguments for indigenous rights to water discussed above, courts must be extremely careful in evaluating such claims. Several possible frameworks could be employed to evaluate these claims, but this section will propose and evaluate two such frameworks: first, the "substantial burden" framework; and second, a modified "customary law" framework. Ultimately, the modified "customary law" framework proposed in this paper provides a better approach for international courts, as it can be more effectively considered evidence of valuable water uses such as religiously-based TEK.

A. The "Substantial Burden" Framework

Federal courts in the United States rely on a four-part inquiry to evaluate claims of government action burdening religious expression:

> 1) Does the claim involve a sincere religious belief?;
> 2) Does the government action impose a substantial burden on the free exercise of religion?;
> 3) If there is a substantial burden, does the government have a compelling interest justifying the substantial burden?; and
> 4) If there is both a substantial burden and a compelling interest, then has the government applied the means least restrictive of religion in achieving its compelling interest?[113]

The Supreme Court in *Employment Division v. Smith* abandoned this test; however, the U.S. Congress responded to that decision by enacting the Religious Freedom Restoration Act, restoring the "substantial burden" test, which has been upheld and applied to federal law.[114]

1. The Advantages of the "Substantial Burden" Framework

Given the inherent complexity and subjectivity of religious rights claims, the "substantial burden" framework is a straightforward and reasonable approach to evaluating claims of unlawful governmental intrusion into religious expression. International tribunals could apply this

113. *Smith*, 494 U.S. at 895 (quoting Sherbert v. Verner, 374 U.S. 398 (1963)).

114. *Smith*, 494 U.S. at 883–84; *see also* City of Boerne v. Flores, 521 U.S. 507 (1997); Religious Freedom Restoration Act, 42 U.S.C. § 2000bb.

same four-part test to indigenous religious claims to water resources under the CP Covenant.

Religious rights-based claims to water would be stronger in the context of international law than in the context of U.S. law for three reasons. First, the CP Covenant is worded more broadly than the U.S. Constitution's First Amendment (First Amendment). Whereas the First Amendment limits governmental authority to laws "prohibiting" the free exercise of religion, Article 18 of the CP Covenant provides that "[e]veryone shall have the right to freedom of . . . religion. This right shall include freedom to . . . manifest his religion or belief in worship, observance, practice and teaching."[115] It was the narrow wording of the First Amendment that led to the holding in *Smith*, a problem more easily avoided under the CP Covenant, making the "substantial burden" test a natural fit.

Second, unlike the First Amendment, the CP Covenant expressly provides that religious rights may be limited only as "prescribed by law and [as] necessary to protect public safety, order, health, or morals or the fundamental rights and freedoms of others."[116] The CP Covenant thus provides for a balancing of secular interests against religious freedoms and the "substantial burden" framework is a well-developed method for the courts' balancing of those interests.

Third, the IP Declaration, which would guide the interpretation of the CP Covenant, draws an express legal connection between the guarantee of religious rights and indigenous peoples' traditional use of water. This is referred to in Article 25 of the IP Declaration as a "distinctive spiritual relationship" with traditional water uses.[117] Thus, unlike U.S. religious rights jurisprudence, international law contemplates a nexus between religious rights and indigenous water uses, facilitating translation of the "substantial burden" test to questions of water rights.

2. Potential Disadvantages of the "Substantial Burden" Framework

The "substantial burden" framework raises potential challenges. The test requires a court to determine if a burden is "substantial."[118] Drawing lines between "substantial" and "insubstantial" burdens in religion is especially difficult in cases of minority religions like those of many indigenous communities. As U.S. Supreme Court Justice Sandra Day O'Connor noted in *Smith*, guarantees of religious freedom are most

115. CP Covenant, *supra* note 17, at art. 18(1).

116. *Id.* art. 18(3).

117. IP Declaration, *supra* note 5, at art. 25.

118. *Sherbert*, 374 U.S. at 403–04.

precious to minority religions, as those religions face a greater risk of being affected by laws of general applicability than members of mainstream religions whose interests are more easily asserted through political processes.[119]

Courts may view faith through the lens of mainstream religions, and thus fail to grasp the importance given by many indigenous faiths to water. Such was arguably the case in the *Navajo Nation* case, where the court upheld the government's approval of discharges of treated sewage effluent onto sacred Navajo land, the court held that the discharge was not a "substantial burden" to the Navajo religious observers.[120] The court in *Navajo Nation* arguably failed to grasp the magnitude of the tribe's burden, arguing that there cannot be a substantial burden unless the state either denies benefits or criminalizes behavior based on religious beliefs.[121] Indeed, the dissent in *Navajo Nation* notes: "I do not think that the majority would accept that the burden on a Christian's exercise of religion would be 'insubstantial' if the government permitted only treated sewage effluent for use as baptismal water."[122]

Finally, the "substantial burden" framework, which inadequately addresses issues arising under indigenous religious law under First Amendment jurisprudence, may not effectively translate into international law.

B. A Modified "Customary Law" Framework

Despite its advantages, the "substantial burden" framework arguably provides too little protection for the rights of indigenous peoples and is too integrated with First Amendment jurisprudence to be effectively applied in the international law context. Another potential framework for courts to consider would be to examine religious claims by indigenous peoples to water resources as a "customary law" interest in water, giving rise to a quasi-property right.[123] In this way, indigenous communities avail themselves of the benefits of grounding their claims to water resources on negative rights protected under the CP Covenant and also retain the benefits of preserving and legitimizing religiously-based and beneficial TEK.

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119. *Smith*, 494 U.S. at 902.

120. *Navajo Nation*, 535 F.3d. at 1090.

121. *Id.* at 1097.

122. *Id.*

123. Yvette Trahan, *The Richtersveld Community and Others v. Alexkor Ltd.: Declaration of a 'Right in Land' Through a 'Customary Law Interest' Sets Stage for Introduction of Aboriginal Title into South African Legal System*, 12 TUL. J. INT'L & COMP. L. 565, 567–68 (2004).

However, they avoid the complications associated with claims based solely on religious freedom rights.[124]

An example of this approach can be found in South African law. The indigenous people of the Richtersveld region of South Africa possessed their land for centuries, long before European colonization, until their land was largely turned over to international corporations for diamond mining.[125] The Richtersveld community's claims to a right to their traditional land was upheld on appeal to the South African Supreme Court, based on the community's argument that it had a right to the land under its own indigenous law, amounting to a "customary law interest" leading to a right to the land.[126]

"Customary law" forms a part of the law of many countries, as it is inherited from Roman and British law.[127] To constitute valid law, "custom" must have four elements:

1) ancient;
2) reasonable;
3) certain; and
4) uniformly observable.[128]

Canada has relied on "customary law" to support aboriginal claims to title and rights to land use.[129] Canadian law views indigenous claims to land under "customary law" as a spectrum of interests, ranging from no real interest in the land on one end to the middle of the spectrum, where custom may not support title to the land but can support a "site-specific right" to engage in ceremonial or cultural activities. At the far end of the spectrum, "customary law" would support the indigenous community's claim to title to the land itself.[130]

This same common law concept could be applied to indigenous claims to water resources based on religious custom, but modified to incorporate rights based on beneficial TEK. Where indigenous religious practice related to water is ancient, uninterrupted, certain, and reasonable as

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124. CP Covenant, *supra* note 17, at art. 1(2) and art. 17(1) (guaranteeing protection from arbitrary interference with means of subsistence and home, and guarantees peoples rights to dispose of their own resources).

125. Trahan, *supra* note 123, at 566.

126. *Id.* at 567.

127. *Id.* at 568.

128. *Id.* at 569.

129. *Id.* at 571.

130. Trahan, *supra* note 123, at 571–72.

evidenced by TEK, such indigenous communities could assert a right to water based on "customary law" in international courts.

1. Advantages of a Modified "Customary Law" Framework

The "customary law" framework has many benefits. It is a widely-accepted and adjudicated principle in many parts of the world, and thus well-suited for application on an international level.[131] Indeed, the Inter-American Court for Human Rights has already relied on "customary law" principles in holding that the American Convention on Human Rights includes the right of indigenous peoples to the protection of their traditional natural resources.[132]

Furthermore, the "customary law" framework includes considerations of "reasonableness," which would allow courts necessary discretion to avoid unsustainable or inequitable religious claims to water by indigenous communities.[133] Additionally, by allowing for a spectrum of interests in property, the approach is sufficiently nuanced to allow multiple water uses and property rights within the same watershed. Indeed, by taking a "property rights" approach based on religious uses rather than a "religious rights" approach, indigenous communities retain the benefits of a claim grounded in the binding CP Covenant, enabling a mechanism for claims by non-state actors predicated on immediately binding and mature rights.

The CP Covenant guarantees rights of people to self-determination; to freely dispose of their natural resources, to be free of arbitrary deprivation of means of subsistence, and to be free from arbitrary invasions of the home.[134] A "customary law" property right to water is arguably protected under these provisions to the same degree as religious rights under the CP Covenant.[135] As such, under a "customary law" approach, indigenous communities retain the legal strategic benefits of grounding water resource claims on rights guaranteed under the CP Covenant, but avoid the types of subjective and potentially culturally-biased balancing tests (like the "substantial burden" test) employed by courts in religious rights cases.

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131. *Id.* at 569.

132. *Mayagna (Sumo) Awas Tingni Cmty. v. Nicaragua*, Inter-Am. Ct. H.R. (ser. C) No. 79 (Aug. 31, 2001) (The Inter-American Court for Human Rights found that Nicaragua had violated the rights of the Awas Tingni people by granting a timber concession to a logging company within the tribe's traditional area without the tribe's consent.); *see also* Claudio Grossman & S. James Anaya, *The Case of the Awas Tingi v. Nicaragua: A New Step in the International Law of Indigenous Peoples*, 19 AZ. J. INT'L & COMP. L. 1 (2002).

133. Trahan, *supra* note 123, at 582.

134. CP Covenant, *supra* note 17, at art. 1 and art. 17.

135. *See generally id.*; Trahan, *supra* note 123, at 569.

Additionally, this approach furthers interests in the simultaneous protection of the environment and indigenous culture embodied in TEK, while avoiding the challenge courts face in evaluating religious beliefs and the degree to which government action burdens those beliefs.

2. Potential Disadvantages of the "Modified Customary" Law Framework

This "customary law" framework raises several problems. First, the elements of "customary law" can be very difficult to establish: where colonial rule has interrupted certain customary practices, where certainty is lacking as to the customary nature of the practice, and where a practice is a relatively recent development.[136] However, a modified approach, where beneficial TEK is considered an essential element in demonstrating rights to water resources, may avoid this problem by grounding claims in demonstrable, culturally-transmitted, and beneficial uses.

Second, and perhaps most problematic, this framework conceptualizes indigenous customs within the context of Western ideas of rights and ownership—concepts which may be incompatible. Indigenous communities may attempt to frame their customs within the context of Western rights in an attempt to secure resources or preserve culture, but in doing so, could further exacerbate hegemonic convergence.

V. CONCLUSION

Regardless of the framework used, a "liberty rights" approach to water resource claims (such as a religious rights-based claim) has several advantages. First, the international human right to water lacks consensus in part because it has been framed as a "welfare right," raising concerns about state liability for water service and impacts on private property rights. A "liberty rights" approach does not raise those same concerns while being legally binding, unlike "welfare rights." Second, "liberty rights" claims to water legitimize and protect effective TEK, as well as ecological and cultural uses of water.

Most importantly, "liberty rights" claims appropriately introduce questions of religious culture into the debate on water rights. As population grows and climate changes, allocation and protection of water resources will become increasingly contentious. The most hotly contested watersheds, including the Jordan River, Ganges River, Indus River, and Colorado River, have several things in common. In particular, each of these international river basins has religious significance and the river basins support indigenous communities. To avoid or mitigate water

136. Trahan, *supra* note 123, at 584–85.

conflict, policy-makers and judges must look beyond politics, economics, and ecology, and incorporate considerations of religion and culture in the formulation and interpretation of water law.